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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,740	07/12/2006	Byeong-Ju Park	0630-2786PUS1	7844

2292 7590 09/17/2009  
BIRCH STEWART KOLASCH & BIRCH  
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FALLS CHURCH, VA 22040-0747

EXAMINER
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A, MINH D

ART UNIT	PAPER NUMBER
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2821

NOTIFICATION DATE	DELIVERY MODE
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09/17/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,740	<b>Applicant(s)</b> PARK ET AL.	
	<b>Examiner</b> MINH D. A	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/30/07</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

This is a response to the Applicants' filing on 10/7/12/06. In virtue of this filing, claims 1-20 are currently presented in the instant application.

#### ***Specification Accepted***

1. The specification submitted on 2/2/07 is accepted.

#### ***Drawings Unaccepted***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

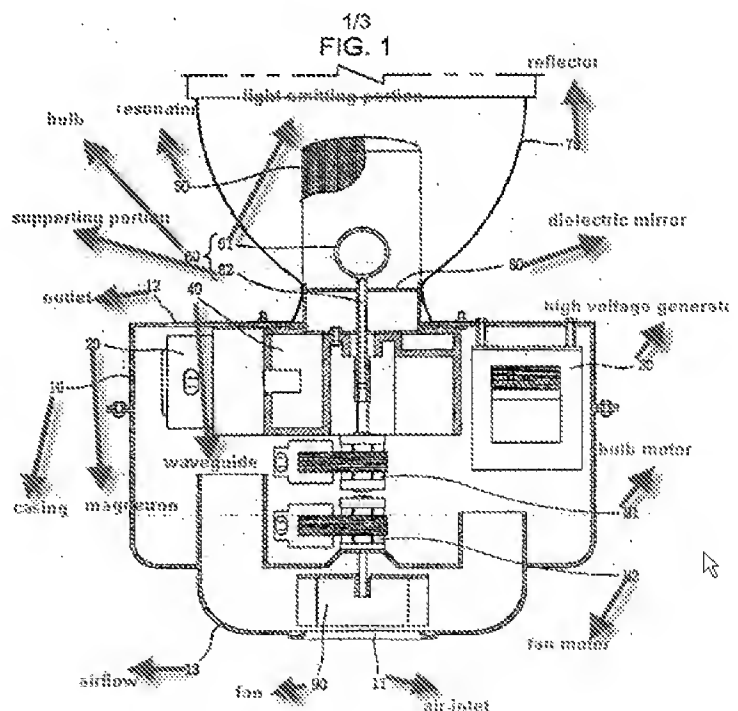
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Applicant Admitted Prior Art (AAPA) discloses in figure 1, in view of Zimmerling et al (Pub. No: U.S 2005/0062567A1).

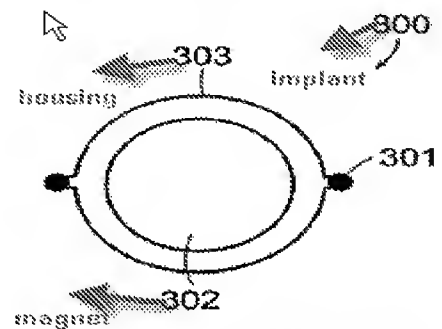
Regarding claim 1, AAPA discloses in figure 1 that, an apparatus for preventing leakage of a material inside a bulb (60) for a plasma lighting system, comprising: a bulb (60) containing a discharge material therein for emitting light as the discharge material becomes a plasma state by an electric field (emitting portion (61) with electric field and discharge material on the bulb(60); AAPA also discloses that, an external electric field of the bulb at a peripheral portion as shown in figure 1.



However, AAPA does not disclose that, a magnetic field forming portion for preventing the discharge material of a plasma state from being leaked by an external electric field of the bulb by forming a magnetic field at a peripheral portion of the bulb.

Zimmerling et al disclose, in figure 3 that, an implantable magnet (302) for apply magnet field and can be used to prevent leakage of material into the body of the implant (300).

Paragraph [0047], lines 4-7 and paragraph [0048], lines 4-10.



It would have been obvious to one having ordinary skill in the art to employ the magnet of Zimmerling et al into the bulb plasma lighting system of AAPA to achieve the claimed invention. As disclosed in Zimmerling et al, the motivation for the combination would be to prevent the leakage of a material inside the bulb for a plasma lighting system.

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Regarding claim 2, combination AAPA and Zimmerling disclose all of the claimed subject matter, as expressly recited in claim 1, except for wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the discharge material be positioned at a center of the bulb.

This difference is not patentable merit since it is directed to select difference shape for discharge material into the bulb which do not differentiate the magnet having a spherical magnet shape (paragraph [0050], lines 1-3 of Zimmerling. A claim containing a recitation with respect to the different shape in which a claimed lighting system are intended to be employed do not differentiate the claimed lighting system from a prior art. Therefore, to employ difference shape for the discharge material in the lighting system of prior art, upon a particular application or environment of use, would have been deemed obvious to a person skilled in the art.

*In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) .

Regarding claim 3, combination AAPA and Zimmerling disclose wherein the discharge material comprises (Na) (see page 3, line 14 of AAPA), but AAPA and Zimmerling do not clearly point out that the discharge material is made a sodium (Na).

It would have been obvious to one of ordinary skill in the art to utilize the sodium material into the bulb, since it is known and well suited for the intended use. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

Regarding claim 4, combination AAPA and Zimmerling disclose wherein the discharge material comprises Na. Page 3, line 14 of AAPA.

Regarding claim 5, combination AAPA and Zimmerling disclose all limitations as recited in claim 1 and figure 1 above that, an apparatus for preventing leakage of a material inside a bulb for a plasma lighting system, comprising: a resonator (50); a bulb(60) received in the resonator(50) and containing a discharge material therein for emitting light(61) as the discharge material becomes a plasma state by an electric field; and a magnetic field forming portion for preventing the discharge material of a plasma state from being leaked by an external electric field of the bulb by forming a magnetic field at a peripheral portion of the bulb.

Regarding claim 6, combination AAPA and Zimmerling disclose all of the claimed subject matter, as expressly recited in claim 1, except for wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the discharge material be positioned at a center of the bulb.

This difference is not patentable merit since it is directed to select difference shape for discharge material into the bulb which do not differentiate the magnet having a spherical magnet shape (paragraph [0050], lines 1-3 of Zimmerling. A claim containing a recitation with respect to the different shape in which a claimed lighting system are intended to be employed do not differentiate the claimed lighting system from a prior art. Therefore, to employ difference shape for the discharge material in the lighting system of prior art, upon a particular application or environment of use, would

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have been deemed obvious to a person skilled in the art.

*In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claim 7-8, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as an electromagnet or magnet. See figure 3 of Zimmerling.

Regarding claim 9, combination AAPA and Zimmerling wherein the magnetic field forming portion is implemented as a permanent magnet. See figure 3 of Zimmerling.

Regarding claim 10, combination AAPA and Zimmerling wherein the discharge material comprises Na. See page 3, line 14 of AAPA.

Regarding claim 11, combination AAPA and Zimmerling disclose an apparatus for preventing leakage of a material inside a bulb(6) for a plasma lighting system, comprising: a casing(10); a magnetron(20) mounted in the casing(10); a wave guide (40) connected to the magnetron(20) for guiding electromagnetic wave; a resonator(50) connected to the wave guide(40) for resonating electromagnetic wave; a bulb (60) received in the resonator(50) and containing a discharge material therein for emitting light as the discharge material becomes a plasma state by an electric field

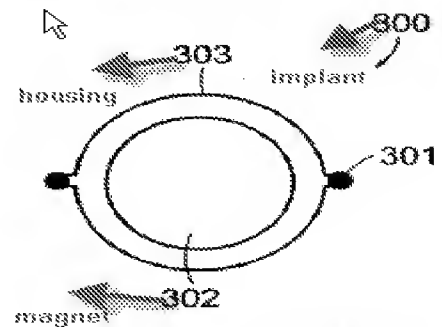
However, AAPA does not disclose that, a magnetic field forming portion for preventing the discharge material of a plasma state from being leaked by an external electric field of the bulb by forming a magnetic field at a peripheral portion of the bulb.



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Zimmerling et al disclose, in figure 3 that, an implantable magnet (302) for apply magnet field and can be used to prevent leakage of material into the body of the implant (300).

Paragraph [0047], lines 4-7 and paragraph [0048], lines 4-10.

**FIG. 3**

It would have been obvious to one having ordinary skill in the art to employ the magnet of Zimmerling et al into the bulb plasma lighting system of AAPA to achieve the claimed invention. As disclosed in Zimmerling et al, the motivation for the combination would be to prevent the leakage of a material inside the bulb for a plasma lighting system.

Regarding claim 12, combination AAPA and Zimmerling obviously disclose as mentioned in claim 2 that, wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the discharge material be positioned at a center of the bulb.

Regarding claim 13, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as an electromagnet. See figure 3 of Zimmerling.

Regarding claim 14, combination AAPA and Zimmerling disclose wherein a reflector (70) having the resonator (50) therein for forwardly reflecting light generated

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from the bulb(60) is installed at a front side of the casing(10). See figure 1 above of AAPA.

Regarding claim 15, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is installed accordingly as the electromagnet is mounted in a housing and the housing is positioned at an outer circumferential surface of the reflector (70). See figure 1 of AAPA and figure 3 of Zimmerling above.

Regarding claim 16, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is installed accordingly as the electromagnet is mounted in a housing and the housing is coupled to the casing. See figure 1 of AAPA and figure 3 of Zimmerling above.

Regarding claim 17, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as a permanent magnet.

Regarding claim 18, combination AAPA and Zimmerling disclose wherein the permanent magnet is attached to an outer circumferential surface of the casing.

Regarding claim 19, combination AAPA and Zimmerling disclose wherein a discharge material comprises Na. Page 3, line 14 of AAPA.

Regarding claim 20, combination AAPA and Zimmerling disclose wherein the discharge material comprises Na. Page 3, line 14 of AAPA.

***Citation of relevant prior art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Hug et al (U.S. Patent No. 6,693,944) discloses a sputtering metal ion laser.

Prior art Choi et al (U.S. Patent No. 6,979,952) discloses an electrode-less lamp system.

Prior art Kim (U.S. Patent No. 6,960,885) discloses an electrode-less discharge lamp.

Prior art Lee et al (Pub: US 2005/0122049) discloses an electrode-less lighting system.

Prior art Hu (Pub: US 2005/0062426) discloses an electrode-less lighting system.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is

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assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

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Date 9/12/09

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
September 12, 2009